Cancel claims 1-17

Add claims 18-34

18. A data coding method comprising the steps of:

monitoring a data signal containing a plurality of symbols and determining a plurality of most frequently occurring data components in said data signal, selected from the group consisting of most frequently occurring symbols and most frequently occurring sequences of symbols containing at least two symbols;

allocating respective codewords to said most frequently occurring data components, thereby obtaining a codeword set; and

forming a compressed signal by substituting the respective codewords for said most frequently occurring data components.

19. A method as claimed in claim 18 wherein the step of monitoring said data signal comprises monitoring said data signal during a predetermined time period.

20. A method as claimed in claim 18 wherein said data signal includes uncoded symbols, that are not among said plurality of most frequently occurring symbols, and comprising the additional step of reserving at least one codeword in said set as an indicator for said uncoded symbols.

21. A method as claimed in claim 20 wherein said uncoded symbols include uncoded negative symbols, and comprising supplementing said at least one codeword serving as said indicator for uncoded symbols with at least one further codeword, for said uncoded negative symbols, indicative of a negative value.

22. A method as claimed in claim 18 wherein the step of allocating codewords comprises allocating codewords to respective data components that are incorporated in other data components having another codeword allocated thereto.

BEST AVAILABLE COPY

23. A data compression method comprising the steps of:

converting a plurality of most frequently occurring data components in a data signal containing a plurality of symbols into respective codewords, said most frequently occurring data components being selected from the group consisting of most frequently occurring symbols and most frequently occurring sequences of symbols containing at least two symbols; and

designating remaining symbols in said data signal, not among said most frequently occurring data components, with at least one codeword indicative of no compression; and

substituting said codewords in place of said symbols.

24. A method as claimed in claim 23 comprising setting a predetermined number and a predetermined length for said codewords.

25. A method as claimed in claim 23 comprising preprocessing an input signal containing a plurality of symbols to generate said data signal by generating an additional symbol representing a difference between contiguous symbols in said input signal.

26. A method as claimed in claim 23 comprising the additional steps of:

reading a symbol in said data signal;

determining if the symbol that has been read corresponds to a codeword; and

substituting said codeword for said symbol that has been read if said symbol that has been read corresponds to only one codeword.

27. A method as claimed in claim 26 wherein said symbol that has been read is a first symbol, and comprising the additional steps, if said first symbol corresponds to more than one codeword, of:

reading a subsequent symbol following said first symbol;

determining if said first symbol and said subsequent symbol correspond to a codeword; and

BEST AVAILABLE COPY

substituting a codeword in place of said first symbol and said subsequent symbol if said first symbol and said subsequent symbol correspond to only one codeword.

28. A method as claimed in claim 27 comprising the additional step, if said symbol that has been read corresponds to no codeword, retaining said symbol that has been read in said data signal.

29. An arrangement for compressing and decompressing a data signal, comprising:

a memory for storing codewords respectively corresponding to data components selected from the group consisting of symbols and symbol sequences; and

a determination unit supplied with a data signal containing a plurality of symbols for determining if a symbol in said data signal corresponds to a codeword in said memory and, if a symbol corresponds to only one codeword in said memory, transmitting that codeword in place of said symbol and transmitting said symbol if said symbol corresponds to no codeword in said memory.

30. An arrangement as claimed in claim 29 wherein said memory includes a plurality of memory locations respectively designating codewords, and wherein each memory location contains an indication of a number of possible symbol sequences, and is mapped to a symbol of said data signal.

31. An arrangement as claimed in claim 30 further comprising a difference symbol generator, connected preceding said determination unit, which generates a difference symbol between contiguous symbols in said data signal.

32. An arrangement as claimed in claim 29 wherein said memory comprises a plurality of memory locations having respective addresses, and wherein said addresses are said codewords.

BEST AVAILABLE COPY

33. A computer program product for converting a data signal containing a plurality of symbols into a compressed signal, said computer program product comprising:

a computer-readable program code for establishing a set of codewords by determining a plurality of most frequently occurring data components in a data signal, said most frequently occurring data components being selected from the group consisting of most frequently occurring symbols and most frequently occurring sequences of symbols containing at least two symbols; and

said program code allocating one codeword to each of said most frequently occurring data components.

34. A computer program product as claimed in claim 33 wherein said program code compresses said data signal by converting said most frequently occurring data components into respective codewords by reading a symbol in said data signal and determining if said symbol corresponds to a codeword, and if so, emitting said codeword instead of said symbol and, if not, emitting said symbol.

BEST AVAILABLE COPY